

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BVoc DEGREE EXAMINATION MAY 2024  
(Second Semester)

Branch- FOOD PROCESSING TECHNOLOGY

FOOD PROCESSING ENGINEERING

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Water activity is closely related to ----- a) Relative humidity                      b) Moisture c) Water content                              d) Total solids	K1	CO1
	2	State the process that measures moisture content during thermogravimetric analysis. a) Water vaporization                      b) Freezing c) Oven drying                                  d) Sun drying	K2	CO1
2	3	Identify the method of removal of soil, food residue, dirt, grease or other objectionable matter. a) Disinfection                                  b) Cleaning c) Fumigation                                  d) Irradiation	K1	CO2
	4	Indented cylinder separator separates the grains based on which among the following? a) Weight    b) Length c) Relative length                              d) Mass	K2	CO2
3	5	In drying, the end of constant rate period and start of falling rate period is known as a) Equilibrium moisture content      b) Critical moisture content c) Final moisture content                  d) Both a & b	K1	CO3
	6	In ball mill, the size of food grains is reduced due to _____. a) Crushing                                      b) Shearing c) Impact    d) All of the above	K2	CO3
4	7	Pneumatic conveying uses which medium to transport the materials? a) Water    b) Air c) Solvent    d) None of the above	K1	CO4
	8	For which of the following application, belt conveyor used for? a) Material transportation over long distances b) Material transportation within premises c) Material transportation for processing d) All of the above	K2	CO4
5	9	Name the method of food process that minimizes changes to the structure and composition of food and retains fresh like texture. a) Blanching                                      b) Hurdle technology c) Minimal processing                          d) All of the above	K1	CO5
	10	Ohmic heating is also known as _____. a) Joule heating                                  b) Electrical resistance heating c) Both a & b                                      d) Cold sterilization	K2	CO5

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**SECTION - B (35 MARKS)**Answer **ALL** questions**ALL** questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	How water activity plays an important role in the shelf life of foods? Explain with one example.	K1	CO1
		(OR)		
	11.b.	What is the use of psychometric chart? List the thermodynamic properties of air and explain any three properties in detail.		
2	12.a.	Classify the types of cleaning methods used in food industries along with suitable equipment.	K2	CO2
		(OR)		
	12.b.	Summarize the applications of color sorter in food processing industries.		
3	13.a.	With a neat sketch, explain the constant rate and falling rate period of drying curve.	K2	CO3
		(OR)		
	13.b.	Explain the laws used in size reduction of food materials along with the formula.		
4	14.a.	100 kg/hr of Raw groundnut with shell needs to be decorticated. Choose a suitable decorticator for the above application and explain it with a neat sketch.	K3	CO4
		(OR)		
	14.b.	Classify the conveying equipment used in food processing industries and explain about the conveyor which is used to convey the materials in vertical direction.		
5	15.a.	Distinguish between ohmic heating and pulsed electric field with simple schematic diagram.	K3	CO5
		(OR)		
	15.b.	Select the method of producing cold plasma for food processing applications.		

**SECTION -C (30 Marks)**Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	List out and explain the methods for the determination of indirect moisture of food materials.	K1	CO1
2	17	Illustrate the working of inclined belt separator along with its principle.	K2	CO2
3	18	i. Compare shallow bed and deep bed driers (any 3 points)	K2	CO3
		ii. Explain the working of hammer mills.		
4	19	A wheat milling unit wants to convey whole wheat from underground storage bin to the processing unit located at the first floor and also wanted to convey wheat flour to the packaging unit located at the second floor. Select suitable conveying equipment and justify your answer.	K3	CO4
5	20	Choose and explain the method, which is used to inactivate the microbes in the apple juice with the application of 20kHz frequency.	K3	CO5